

**Notice of Allowability**

Application No.

10/771,563

Examiner

Daniel S. Metzmaier

Applicant(s)

CREWS, JAMES B.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 04 Jan. 2006 and interview of 17 March 2006.

2. ☒ The allowed claim(s) is/are 1,6,8,9,12,13 and 25-28.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some\* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_

4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 3/17/2006.

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other \_\_\_\_\_.

**EXAMINER'S AMENDMENT**

Claims 1, 6, 8-9, 12-13, and 25-28 are allowed.

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David L. Mossman on March 17, 2006.

The application has been amended as follows:

Replace all previous claim list with the following list beginning on page 3 of the examiner's amendment.

*Begin claim amendment*

1. (Currently amended) A method for breaking the viscosity of polymer gelled aqueous fluids comprising a borate crosslinked guar or a borate crosslinked derivatized guar polymer gel, the method comprising adding an effective amount of at least one aminocarboxylic acid to break down the gel by acting on the crosslinker and primarily directly on the polymer gel, where the aminocarboxylic acid is selected from the group consisting of ethylenediaminetetraacetic acid (EDTA), propylenediaminetetraacetic acid (PDTA), hydroxyethylenediaminetetraacetic acid (HEDTA), nitrilotriacetic acid (NTA), ethylenediaminetriacetic acid (HEDTA), ethylenediaminediacetic acid (H<sub>2</sub>EDDA), dihydrate ethylenediaminediacetic acid (2H<sub>2</sub>O EDTA), salts of these acids, and mixtures thereof; where the method is conducted at a temperature between about 120° F (49° C) and about 280° F (138° C) and in the absence of an oxidizer or an enzyme effective to break viscosity within this temperature range.
- 2-5. (Canceled).
6. (Original) The method of claim 1 where the aminocarboxylic acid is selected from the group consisting of the sodium salt, the potassium salt, and the ammonium salt of the acid.
7. (Canceled).
8. (Original) The method of claim 1 where in adding the aminocarboxylic acid, the amount of aminocarboxylic acid added ranges from about 0.1 to about 30.0 pptg (from about 0.01 to about 3.4 kg/m<sup>3</sup>) based on the total volume of fluid.

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9. (Currently amended) A method for breaking the viscosity of aqueous fluids comprising a borate crosslinked guar or borate crosslinked derivatized guar polymer gel, the method comprising adding an effective amount of at least one aminocarboxylic acid to break down the gel by acting on the crosslinker and primarily directly on the polymer gel, where the aminocarboxylic acid is selected from the group consisting of ethylenediaminetetraacetic acid (EDTA) and salts thereof at a temperature between about 120° F (49° C) and about 220° F (104° C), propylenediaminetetraacetic acid (PDTA) and salts thereof at a temperature between about 140° F (60° C) and about 230° F (110° C), hydroxyethylenediaminetetraacetic acid (HEDTA) and salts thereof at a temperature between about 190° F (88° C) and about 280° F (138° C), nitrilotriacetic acid (NTA), ethylenediaminetriacetic acid (HEDTA), ethylenediaminediacetic acid (H<sub>2</sub>EDDA), dihydrate ethylenediaminediacetic acid (2H<sub>2</sub>O EDTA), salts of these acids, at a temperature between about 120° F (49° C) and about 220° F (104° C), and mixtures thereof, and where the method is conducted in the absence of an oxidizer or an enzyme effective to break viscosity within this temperature range.

10-11. (Canceled).

12. (Original) The method of claim 9 where the aminocarboxylic acid is selected from the group consisting of the sodium salt, the potassium salt, and the ammonium salt of the acid.

13. (Original) The method of claim 9 where in adding the aminocarboxylic acid, the amount of aminocarboxylic acid added ranges from about 0.1 to about 30.0 pptg (from about 0.01 to about 3.4 kg/m<sup>3</sup>) based on the total volume of fluid.

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14-24. (Canceled).

25. (Currently amended) The method of claim 9 where the aminocarboxylic acid is selected from the group consisting of NTA, [[HEDTA]] ethylenediaminetriacetic acid, H<sub>2</sub>EDDA, 2H<sub>2</sub>O EDTA, salts of these adds, and the temperature ranges between about 150° F (66° C) and about 260° F (127° C).

26. (Currently amended) The method of claim 9 where the aminocarboxylic acid is selected from the group consisting of EDTA and salts thereof at a temperature between about 130° F (54° C) and about 200° F (93° C), PDTA and salts thereof at a temperature between about 150° F (66° C) and about 210° F (99° C), [[HEDTA]] hydroxyethylenediaminetetraacetic acid and salts thereof at a temperature between about 190° F (88° C) and about 240° F (116° C), NTA. [[HEDTA]] ethylenediaminetriacetic acid, H<sub>2</sub>EDDA, 2H<sub>2</sub>O EDTA, salts of these acids, and the temperature ranges between about 150° F (66° C) and about 260° F (127° C).

27. (Currently amended) The method of claim 1 where the aminocarboxylic acid is selected from the group consisting of PDTA, [[HEDTA, HEDTA,]] hydroxyethylenediaminetetraacetic acid, ethylenediaminetriacetic acid, H<sub>2</sub>EDDA, salts of these acids, and mixtures thereof.

28. (Currently amended) The method of claim 9 where the aminocarboxylic acid is selected from the group consisting of PDTA, [[HEDTA, HEDTA,]] hydroxyethylenediaminetetraacetic acid, ethylenediaminetriacetic acid, H<sub>2</sub>EDDA, salts of these acids, and mixtures thereof.

*End claim amendment*

***Reasons for allowance***

2. The following is an examiner's statement of reasons for allowance: the amended claims more clearly define the claimed invention. The prior art does not disclose or fairly suggest the claimed methods.

Basis for the amendments may be found throughout the specification, particularly; page 4, lines 4-6; paragraphs [0024]-[0026]; pages 6, lines 21-22; and examples.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Daniel S. Metzmaier  
Primary Examiner  
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DSM